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SUBJECT: TAIWAN HI-TECH - BUSINESS BOOMING DESPITE
GOVERNMENT'S CROSS-STRAIT BARRIERS

REF: TAIPEI 3926

Classified By: AIT Director Stephen M. Young, Reason 1.4 d

¶1. (SBU) Summary: During a trip to Hsinchu, Taiwan's high-tech industry center, business leaders described to AIT Director good prospects for Taiwan's semiconductor and flat-panel display industries, many citing ambitious expansion plans. However, most complained about the Chen administration's management of the economy, focusing almost exclusively on the failure to remove remaining cross-strait economic restrictions. End summary.

¶2. (SBU) On November 29, 2006, AIT Director Young met with high-tech industry leaders at the Hsinchu Science Park, Taiwan's high-tech industry center. The Director met with Applied Materials Taiwan (AMT) General Manager Jack Liu, Taiwan Semiconductor Manufacturing Co. (TSMC) Chairman Morris Chang, ProMOS Technologies Chairman M.L. Chen, AU Optronics Corp. (AUO) Chairman K.Y. Lee, and Industrial Technology Research Institute President Johnsee Lee. The Director also hosted a lunch for leaders of four of Taiwan's largest integrated circuit (IC) design firms - Mediatek, Sunplus, Realtek, and Etron.

Business is Good for Semiconductor Equipment,...

¶3. (C) Each of the business leaders that the Director met described generally favorable prospects for continued growth of his company and industry. AMT's Liu pointed out that Taiwan had been Applied Materials' largest market in the world in FY06. (Note: Applied Materials, based in Santa Clara, CA, is the global leader in semiconductor manufacturing equipment. End note.) Taiwan accounted for 21.2 percent of the firm's sales in FY06, ahead of North America with 19.2 percent and Japan with 18.5 percent. He explained that dynamic random access memory (DRAM) manufacturers accounted for a growing share of AMT's sales. While Taiwan semiconductor firms grew 21.5 percent overall, DRAM manufacturers grew by 54.5 percent in the third quarter of 2006 compared to the same period a year ago. Overall, Liu said, Taiwan has 12 operational 12-inch wafer semiconductor manufacturing facilities (fabs). AMT projects there will be 20 operational 12-inch fabs by the end of 2008. At up to

US\$3 billion per fab, AMT believes that Taiwan firms will invest US\$17 billion over the next two years in constructing these fabs and counts on garnering substantial sales as a result.

Semiconductor Manufacturing,...

14. (C) At TSMC, Taiwan largest semiconductor firm and the world's largest semiconductor contract manufacturer (or semiconductor "foundry"), Chang's staff briefed the Director on the firm's impressive performance in 2006. They reported TSMC's sales were up 17 percent in the third quarter while profits had risen 32.9 percent. TSMC holds a 50 percent global market share among semiconductor foundries. Its closest rival, Taiwan's United Microelectronics Corporation (UMC) has only an 18 percent share. TSMC will lead Taiwan's semiconductor industry in capital expenditure with projected investment of US\$2.6 billion in 2006. It will lead all firms in the island on R&D with expenditures of US\$450 million. TSMC expects strong growth in 2007 as well. The firm ranked number 8 among the world's semiconductor firms by revenue in 2005 and projects that it will reach the number 6 ranking next year.

15. (C) ProMOS's Chen told the Director that business looks good for the DRAM manufacturer in the second half of 2006 and all of 2007. He noted the firm's ambitious expansion plans. ProMOS started production at its second 12-inch wafer fab in 2005 in Taichung. It has another 12-inch wafer fab under construction there. Chen said the company was also waiting for the Ministry of Economic

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Affairs to approve its application to build a fab in the PRC. ProMOS has identified Chongqing as the most likely site for the fab. If approved, ProMOS will transfer 8-inch manufacturing equipment from Taiwan and upgrade to another 12-inch facility here.

Semiconductor Design,...

16. (C) In a roundtable lunch with chairmen of four of Taiwan's top-ten IC design firms, business leaders described generally positive prospects for the industry in Taiwan. (Note: IC design firms, or "fabless" semiconductor manufacturers, design and market integrated circuits but have no manufacturing facilities of their own. Instead, they hire semiconductor foundries, like TSMC, to make the chips. End note.) Etron Chairman

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Nicky Lu pointed out that Taiwan has the world's second largest IC design industry. Lu said Taiwan's IC firms accounted for 20 percent of global revenue for fabless semiconductor firms after North America's 75 percent.

17. (C) The executives also affirmed that Taiwan fabless firms still maintained a strong lead over PRC competitors. Sunplus President Chen Yarn-chen said Taiwan firms had a three to five year technological lead over Mainland firms. Lu noted that total revenue for PRC IC design firms was just US\$1.5 billion, while total revenue in Taiwan is over US\$8 billion. However, he also commented that PRC firms were growing quickly. All of the firms commented that they do a lot of their business in China and expect demand to keep on growing. (Note: According to the Taiwan Semiconductor Industry Association, nearly 58 percent of revenue for Taiwan's IC design firms in 2006 will come from sales to the PRC and Hong Kong, up from 29 percent in 2001. End note.)

And Flat-Panel Displays

¶8. (C) AUO's Lee described some challenges facing thin-film-transistor liquid crystal display (TFT-LCD) manufacturers in Taiwan. He explained that television sets accounted for an increasing share of revenue, now almost 50 percent. Meanwhile the share for computer monitors continues to decline. Because up to 40 percent of televisions are sold in the fourth quarter of every year, TFT-LCD manufacturing is increasingly cyclical, making capital expenditure and production planning more difficult.

¶9. (C) However, Lee also highlighted AUO's growth. With AUO's acquisition of Quanta Display Inc., he said AUO's production was roughly the same as Samsung and LG Philips. (Note: Previously, the two South Korean firms had consistently ranked number one and two worldwide in TFT-LCD production. Some media reports have speculated that next year AUO will rank number one. End note.) Lee underscored expansion plans at Taichung's Central Taiwan Science Park. AUO's facility there has grown to 7,000 employees since construction began in mid-2003. Lee said it would soon become AUO's largest facility. He also mentioned plans to build more advanced generation 8 and 9 TFT-LCD panel factories.

Cross-Strait Restrictions Stifling Investment...

¶10. (C) The high-tech business leaders complained that Taiwan's cross-Strait economic restrictions continue to hinder their ability to expand and do business. TSMC's Chang explained that Taiwan's restrictions on

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semiconductor manufacturing investment in Mainland China were far behind global standards under the Wassenaar Arrangement. Taiwan currently allows investment in the PRC in manufacturing facilities that produce chips with feature size no finer than 0.25 microns. TSMC started volume production of 65-nanometer chips in Taiwan, technology that is three generations ahead of the 0.18-

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micron technology that Taiwan officials are considering opening for PRC investment by the end of the year (reftel). (Note: Semiconductor industry media have reported that Applied Materials recently agreed to sell SMIC, a PRC semiconductor foundry, 65-nanometer technology. End note.)

¶11. (C) ProMOS's Chen commented that his firm had been waiting since December of 2004 for Taiwan's MOEA to respond to its application to build a plant in the PRC. He explained that ProMOS would not produce DRAM in the PRC, but instead planned to make products like power management and display control chips for cell-phones. For these products, Chen said, it was important to have production close to buyers located in the Mainland.

¶12. (C) The TFT-LCD manufacturing industry also faces industry-specific Taiwan restrictions, which prohibit investment using the most advanced production processes. AUO's Lee said his firm had down-stream manufacturing facilities in Suzhou and was building another facility in Xiamen. However, Lee emphasized that AUO would like to have more flexibility about what kind of operations it runs in the Mainland.

And Other Business Opportunities

¶13. (C) AMT's Liu commented that Taiwan's cross-Strait restrictions were a bigger problem for its customers like TSMC and ProMOS, noting Applied Materials has a separate

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subsidiary in the Mainland. However, he complained that the Taiwan government had failed to approve a request to re-export to China used semiconductor manufacturing equipment, which AMT had refurbished in Taiwan. Noting the shortage of entry-level engineers in Taiwan, the IC design executives criticized restrictions that prevent them from recruiting engineers in the PRC. They also complained that the lack of direct air links make it time consuming to meet with PRC clients. This also affects their ability to work with U.S. customers, who frequently travel to the PRC. Because of the lack of direct flights, these customers are often reluctant to include a stop in Taipei in their itinerary, and for Taiwan executives to meet with them in Shanghai generally requires two days of travel. The Director expressed to all of the interlocutors U.S. support for further liberalization of cross-Straits economic restrictions.

Comment - Same Chorus

13. (C) The comments of Hsinchu high-tech business leaders reflect those that we hear from executives in Taipei. Even as they complain about the Chen administration's management of the economy, they describe a positive outlook for their own company or industry. Specific criticisms of the administration's performance focus almost exclusively on cross-Straits restrictions. Removing the remaining cross-Straits barriers will benefit many of Taiwan's most competitive firms, but is unlikely to be the silver bullet for all of Taiwan's economic problems that these comments sometimes suggest. The experience of high-tech industries show that Taiwan firms can continue to thrive working under (and often around) Taiwan's regime of cross-Straits restrictions.

YOUNG